

10/015,533  
Attorney Docket No.: 42P11062

**Remarks:**

Reconsideration of the above referenced application in view of the enclosed amendment and remarks is requested. Claims 7, 13, and 17 have been amended. Existing Claims 1 to 20 remain in the application.

**ARGUMENT**

Claims 1-3, 5-7 and 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,835,760 to Harmer (hereinafter "Harmer") in view of *Extensible Firmware Interface Specification – Draft for Review*. This rejection is respectfully traversed and Claims 1-3, 5-7 and 17-19 and their progeny are believed allowable based on the above amendments and the following discussion.

Harmer teaches a method for using expansion BIOS stored in a computer device rather than being stored in flash or ROM memory. Generally, Harmer teaches a method similar to option-ROM usage. In one embodiment, Harmer teaches reading expansion BIOS from a peripheral which is associated with the device to be loaded into the host computer in order to properly initialize and operate the device (Col. 9, lines 23-29). Harmer describes a memory mapping scheme in order to read the expansion BIOS from the device storage. This and other embodiments of Harmer teach that the BIOS contains enough code to read the initialization instructions for the device and then may initialize the device. In each case, Harmer teaches a simple memory mapping scheme to retrieve the device initialization information from the peripheral or device. The ability to read the information on the device is contained with the platform BIOS, of Harmer.

In contrast, the claimed invention is directed toward a system and method that enables a firmware extension to be read from a self-describing boot media device enabling the firmware to read previously inaccessible portions of the boot media. For instance, DVD formats are defined such that EFI firmware is typically incapable of reading all portions of the DVD, because the drivers are too complex to be loaded into the platform firmware. Thus, in systems existing at the

10/015,533

Attorney Docket No.: 42P11062

time of Applicants' invention, DVDs could not be boot media, as not all of the data on the DVD was accessible to the firmware. In some claimed embodiments of Applicants' invention, the boot media contains portions of the operating system or operating systems loader. Without the firmware extension read from the boot media, the system would not have been able to boot from this media.

Harmer does not teach or suggest that the expansion firmware read from a peripheral enables previously unreadable instructions to be accessed from the storage. Harmer teaches that the expansion firmware enables initialization of the device, but not that the expansion firmware describes how to access other portions of media within the peripheral devices. As discussed above in terms of a DVD, some types of media require complex drivers that are not available in the delivered platform firmware, and thus in traditional systems, could not be *boot* media. A self-describing media module (Para. 49 of the specification) may be used to modularly extend platform firmware capabilities and to minimize non-volatile memory in a data processing system. "For example, a motherboard in a computer may have flash memory storing platform firmware that implements a basic input/output system, which cannot read an entire media containing an OS because the OS uses an unknown format. But the basic input/output system can read a portion of the media, and this portion enables reading of the remainder of the media." In this way, the media is "self-describing." At no time does Harmer teach this type of media. Further, the EFI specification describes how to write a driver to reside in the flash portion, but does not describe the ability to retrieve an EFI image from self-describing media modules.

Moreover, Harmer teaches that the expansion BIOS retrieved from a device is related to the device. At Col. 12, lines 63 et seq., Harmer teaches that the BIOS finds and configures a mass memory storage device and then loads the expansion BIOS from the mass storage device. It is inherent in these teachings that the system BIOS contains enough information to read the mass storage device. In contrast, Applicants' claimed invention recites that the information needed to read the required data from the media device is read from the media device (self-describing).

The Examiner cites Col. 9, lines 16-29 et seq. as prior art for a self-describing medium. In fact, Harmer merely teaches a memory mapping scheme to enable information to be read in order to "properly initialize the device." In contrast, Applicants' claims recite a system wherein

10/015,533

Attorney Docket No.: 42P11062

the one or more firmware extensions residing on the boot media comprise a self-describing media module, thus enabling the firmware to read other portions of the media. This firmware extension is not limited to initializing the device. Thus, all of the claimed features are not shown by the cited references, either alone or in combination, and Claims 1-20 are believed allowable.

Claims 4 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Harmer and *EFI Specification – Draft for Review* further in view of *BIOS Updates*. This rejection is respectfully traversed and Claims 4 and 20 are believed allowable based on the foregoing and following discussion.

*BIOS Updates*, at least, fails to teach or disclose that the system has an extensible firmware interface. None of the cited references, either alone or in combination, teach or describe retrieving information or extensions from non-volatile memory comprising RAM which is a self-describing media device. Applicants' claimed invention generally requires an EFI system which is configured to retrieve EFI images for firmware extension from self-describing media. Thus, Claims 4 and 20 are allowable.

Claims 9-11 and 13-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Harmer and *EFI Specification – Draft for Review* in further view of U.S. Pat. No. 5,978,912 to Rakavy et al. (hereinafter "Rakavy et al."). This rejection is respectfully traversed and Claims 9-11 and 13-16 are believed allowable as amended based on the foregoing and following discussion.

Rakavy et al. teach a method and system for communicating with a computer through a network prior to booting the computer's operating system. Rakavy teach a method to retrieve BIOS enhancements over a network. At no time do Rakavy et al. teach or disclose a system with an EFI architecture where the EFI enables extension of platform firmware where one or more loaded firmware extensions retrieved from the boot media enable the system to access the operating system loader from a portion of the boot media that was inaccessible to the unextended platform firmware. Thus, Claims 9-11 and 13-16 are allowable.

Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Harmer, *EFI Specification – Draft for Review*, Rakavy et al. and further in view of *Unicode Technical Report #10*. This rejection is respectfully traversed and Claim 12 is believed allowable as amended based on the foregoing and following discussion.

10/015,533

Attorney Docket No.: 42P11062

None of the cited references, either alone or in combination, teach or disclose a self-describing machine readable medium having a first portion with instructions (firmware extension) for enabling a system having an EFI architecture to access a second, previously inaccessible or unreadable, portion, where the extension to platform firmware capability comprises a Unicode collation module. Thus, Claim 12 is allowable. All claims remaining in the application are now allowable.

10/015,533  
Attorney Docket No.: 42P11062

### CONCLUSION

In view of the foregoing, Claims 1 to 20 are all in condition for allowance. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (703) 633-6845. Early issuance of Notice of Allowance is respectfully requested. Please charge any shortage of fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such account.

Respectfully submitted,

Dated: 28 July 2005

/s/ Joni D. Stutman-Horn /

Joni D. Stutman-Horn  
Registration No. 42,173  
Patent Attorney  
Intel Corporation  
(703) 633-6845

c/o Blakely, Sokoloff, Taylor & Zafman, LLP  
12400 Wilshire Blvd.  
Seventh Floor  
Los Angeles, CA 90025-1030